Heading in soccer — time for a rethink?

Recently, an ex-professional soccer player appealed to a benefits tribunal in Scotland on the grounds that his pre-senile dementia was caused by heading old-style leather footballs. Although he lost his claim, and footballs are now lighter, this case opens up an important debate.

It has been estimated that there are over a million regular soccer players in the United Kingdom alone. A survey in 1986 found that 6% of persons aged 16 years and over had participated in the sport in the four-week period prior to interview.[1]

There is also an extensive literature demonstrating that the repeated trauma associated with boxing leads to irreversible brain damage.[2] These are caused by subtle changes due to repetitive impacts of the cerebral cortex on the skull and deep-running white matter, that lead to progressive intellectual decline.

However, in football the situation is less clear. In view of the huge numbers of those active in the sport across the world, even slight cognitive dysfunction could have significant public health consequences. Although the risk of acute head injury is well recognized,[3] is there any evidence that there is chronic repeated minor head injury sustained due to heading of the football is of clinical significance?

A study monitoring electroencephalograph (EEG) activity after header training was unable to show any acute changes, although the authors could not exclude a risk of possible long-term damage.[4] In a United States study of soccer players and elite track athletes, no differences were found on magnetic resonance imaging (MRI) examination,[5] and a comparison of amateur boxers and soccer players found no differences in computerized tomography, MRI, or neurophysiological tests.[6] However, significant changes were found in EEG, computerized tomography, and neurophysiological impairment in active and former professional Norwegian players.[7] In the most recent study, Autti[8] found that amateur soccer players had a higher incidence of white matter foci — changes correlated with subtle cognitive dysfunction — than controls or American football players, and concluded that these changes were the result of minor brain trauma sustained during the game.

What can be drawn from this background?

- Heading is an important part of the game of football and offers an important dimension of play, particularly around the goal mouth.
- Owing to the large number of players worldwide, even small deleterious changes could have significant public health consequences.
- Rigorous evidence will be difficult to obtain in this area, which is often characterized by dependence on surrogate outcome measures.
- The available evidence is equivocal, although the latest studies do infer a potential for chronic insult.
- Intuitively, one would anticipate a degree of minor brain trauma. (Try heading a ball back to a colleague who has kicked it to you from 50 yards away!)

Despite insurmountable evidence of the risks associated with boxing, the sport has not changed, and it is unlikely that heading would ever be banned from football. However, in view of the penetration of the sport at all levels, a compromise solution may be acceptable: heading should only be allowed in the penalty area. This would eliminate the trauma from long directly returned balls, which are likely to induce most damage and could even improve the quality of the mid-field game.

There can be few global health proposals that cost nothing, are easy to implement, and have the potential to confer benefit on such a large number of people. The football authorities must act now.

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Valuing ethnic diversity in primary care

AT a recent primary care group (PCG) meeting, the board was informed that there was little evidence of poor access to primary care by minority ethnic communities. At first glance, many in primary care might agree. Most minority ethnic groups consult general practitioners (GPs) more frequently than the majority population.[1,2] However, simply counting service contacts does not determine whether there is effective access to appropriate care. It is unclear to what extent higher GP consultations may reflect greater ill health and social disadvantage or many other potential factors, such as communication within, or poorer outcomes from, consultations.

What is clear is the growing evidence of health need. For

example, some ethnic groups experience greater morbidity and mortality from certain common diseases such as cardiovascular disease and diabetes.[3] Yet, compared to the white population, South Asians with chronic chest pain are less likely to be referred for exercise testing and wait longer to see a cardiologist or to have angiography. The barriers do not appear to be a result of patients' interpretations of symptoms or willingness to seek care. Other factors, related to services and communication with health professionals, need to be considered.[4]

There is limited research suggesting that the quality of primary care of minority groups might be poorer than the majority population.[1] More powerful testimony comes from patients themselves.[5,6] Communication is highlighted repeatedly. Describing their unsatisfactory experiences of consultations, patients from ethnic minorities emphasize the importance of being given time, being taken seriously, and of being examined. They want to be listened to and to be given appropriate explanation. Such expectations are true for everyone. However, ethnic minorities may also experience negative or racist attitudes from professionals or find them insensitive to cultural issues.[5,6] Racism impacts upon health in a variety of ways,[7] and negative stereotyping of people from ethnic minorities by health professionals has been highlighted.[8,9]

Absence of a shared language presents further challenges. Significant proportions of minority ethnic patients do not share a language with their GP.[2] Among those reporting language difficulties, most use a friend or relative to translate, but many still feel that their GP has not understood them.[2] Although good nonverbal communication is helpful and important, this is no substitute for accurate interpretation. Unfortunately, opportunities to consult a bilingual primary care professional vary, and less than 10% of patients have experience of a professional interpreter during consultations.[2]

What can be done? Primary care teams (PCTs) can start by ensuring they work with professional interpreters and by making their patients aware that such help is available. Trained interpreters tend to be underused. Professionals may need to recognize that allowing friends or family to interpret for patients is usually unsatisfactory. They may also need to learn the skills to work effectively with trained interpreters. Where provision of interpreting services is patchy, PCGs can influence further investment in their development and evaluation. For many PCTs, the recruitment of bilingual team members from ethnic communities may have a significant impact.

But achieving effective communication means more than negotiating language barriers. Our attitudes, and our awareness of them, are equally important. We need to value diversity as an integral part of our consultation skills.[10] This means responding to each patient as an individual and to variations in patients' culture in its broadest sense. As with the majority population, professionals must acknowledge the cultural context in which health and illness are expressed. For example, any patient, black or white, will have a particular ethnicity, education, socioeconomic background, set of health beliefs, and experiences. In responding to this diversity, we need a heightened awareness of, and sensitivity to, stereotyping, prejudice, and racism.[10]

Training in valuing diversity requires care. It may challenge attitudes and suggest fundamental change within professionals themselves. It is important not to underestimate the strong discomfort that may be generated. This field is relatively new to health professional education in the United Kingdom. The Royal College of General Practitioners has taken a lead in commissioning a new resource that aims to help introduce valuing ethnic diversity into health education. The training pack and video are launched this month.[10] They offer practical suggestions and guidance for promoting small group interactive learning about culture, communication, racism, working with interpreters, and placing the needs of ethnic minorities in context. Although intended primarily for those training undergraduate medical students and GP registrars, it should be useful for other PCT members. For success, such training must start to become embedded in the education and accreditation of all health professionals.

These are crucial first steps. Overlooking them, and thus failing to address our own awareness and attitudes, may explain why important initiatives such as ethnic monitoring have faltered. There are now effective models that can help PCTs collect essential data about their patients' ethnicity, language, and culture.[11] This information must then be used to plan and improve the quality of care through audit. One priority is the development and dissemination of appropriate material to help inform patients about health issues and community health services. Linkworkers and advocates are also becoming more widely available as colleagues who can work with PCTs and others in responding appropriately to patients' needs.[12]

In the wider context, primary care for many patients from ethnic minorities reflects the general demands of care for all socioeconomically disadvantaged communities. PCTs need targeted support and resources in these circumstances. The imminent retirement of a cohort of doctors from minority ethnic backgrounds who have sustained general practice in many inner-city areas adds greater urgency. PCG-led decision-making now offers important opportunities to begin addressing these issues and to advance service development that is responsive to local communities' needs.[13] The immense diversity of our patients is an essential part of what makes working in primary care more challenging, but also more vital and interesting. If we can learn to value this diversity then we will bring mutual benefits for our patients and ourselves.

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